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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/260,903	03/02/1999	TOSHIFUMI SATO	P/1905-80	7057

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EXAMINER

GANTT, ALAN T

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 09/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/260,903

Applicant(s)

SATO, TOSHIFUMI2

Examiner

Alan T. Gantt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 13 and 15 is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 14 is/are rejected.
- 7) ☒ Claim(s) 5-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/6/03 have been fully considered. Applicant primarily argues that since the United States was not designated in the PCT application, the Karlsson reference cannot be used as a 102(e) reference.

Therefore a new reference, Nakano et al. is offered to meet at least some of applicant's claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al.

Regarding claim 1, Nakano discloses a cellular system using a code division multiple access/ Time division duplex system (col. 2, lines 23-37). Nakano meets the following limitations:

- N (N is a positive integer) pilot channels for transmitting reference signals whose transmission signals are known in advance; (col. 5, lines 10-50 and Figs 4 and 5) and

[N is allowed to equal one]

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- M (M is a positive integer) data channels for transmitting information (col. 5, lines 10-50 and Figs 4 and 5)

[M is allowed to equal one]

- Wherein each of said M data channels is made to dynamically correspond to one or a plurality of said N pilot channels. (col. 5, lines 10-50 and Figs 4 and 5)

[the dynamic correspondence is in the knowing the characteristics of the transmitted pilot signal and making adjustments based on measurements of received pilot signal parameters (col.6, lines 1-32)]

Regarding claim 4, Nakano meets the following limitation:

- Wherein said pilot channel is used for transmission power control on at least said data channel to which said pilot channel corresponds. (col. 5, lines 39-50)

Regarding claim 12, Nakano discloses a reference signal transmission method using a CDMA/TDD scheme for transmitting (col. 2, lines 23-37). Nakano meets the following limitations:

- N (N is a positive integer) reference signals whose transmission signals are known in advance by using N pilot channels; (col. 5, lines 10-50 and Figs 4 and 5)

[N is allowed to equal one]

- Transmitting M (M is a positive integer) pieces of information by using M data channels; (col. 5, lines 10-50 and Figs 4 and 5)

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[M is allowed to equal one]

- Making each of said M data channels dynamically correspond to one or a plurality of said N pilot channels. (col. 5, lines 10-50 and Figs 4 and 5)

[The dynamic correspondence is in the knowing the characteristics of the transmitted pilot signal and making adjustments based on measurements of received pilot signal parameters (col.6, lines 1-32)]

Regarding claim 14, Nakano discloses a cellular system having a base station and using a code division multiple access/ Time division duplex scheme (col. 2, lines 23-37). Nakano meets the following limitations:

- N (N is a positive integer) pilot channels for transmitting reference signals whose transmission signals are known in advance; (col. 5, lines 10-50 and Figs 4 and 5)

[N is allowed to equal one]

- M (M is a positive integer) data channels for transmitting information; (col. 5, lines 10-50 and Figs 4 and 5)

[M is allowed to equal one]

- Wherein each of said M data channels is made to dynamically correspond to one or a plurality of said N pilot channels. (col. 5, lines 10-50 and Figs 4 and 5)

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[The dynamic correspondence is in the knowing the characteristics of the transmitted pilot signal and making adjustments based on measurements of received pilot signal parameters (col.6, lines 1-32)]

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al.

Regarding claim 2, Nakano does not explicitly state that each of the N data channels is made to correspond to one of M pilot channels that go through the same path.

However, the examiner takes Official Notice that it is well known to make each data channel correspond to a pilot channel that goes through the same transmission path and that it would have been obvious to modify Nakano to provide that correspondence since even if there are N data channels and only one pilot channel that is evenly distributed throughout the cell, the pilot and the data channel will travel through the same transmission path if they are both propagated in a 360 degree pattern.

Regarding claim 3, Nakano is silent on using the pilot channel for coherent detection of at least the data channel to which the pilot channel corresponds.

However, the examiner takes Official Notice that it is well known to utilize the pilot channel for coherent detection and it would have been obvious to modify Nakano to make use of the pilot for coherent detection since the characteristics of the pilot signals are known in advance and are measured at the mobile.

Allowable Subject Matter

4. Claims 11, 13 and 15 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:
The antenna aspects of the invention where the selecting of optimum patterns of the directivity patterns and the selecting of one pilot channel for each directivity pattern used for the data channel was neither found, suggested, nor made evident by the prior art.

5. Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 5-10, the aspects of these dependent claims (correspondence between pilot channel and data channel being newly determined immediately before each and every time data channel, this correspondence can be changed during use of data channel, channels used for transmission reception with the same antenna directivity are channels that go through the same transmission path etc.) is used were neither found, suggested, nor made evident by the prior art.

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Conclusion

6. Any inquiry concerning this communication from the examiner should be addressed to Alan Gantt at telephone number (703) 305-0077. The examiner can normally be reached between 9:30 AM and 6 PM within the Eastern Time Zone. The group FAX number is (703) 872-9314.

Any inquiry of a general nature or relating to this application should be directed to the group receptionist at telephone number (703) 305-4700.

Alan T. Gantt

Alan T. Gantt

August 20, 2003

Nay Maung

**NAY MAUNG
PRIMARY EXAMINER**